FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. ASMMC.033AUS	APPLICATION NO. 10/007,304
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	APPLICANT KIM et al.	
	FILING DATE December 5, 2001	GROUP Unknown

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
SR	1.	3,699,734	06/13/72	Jacob et al.	117	217	08/05/70
	2.	5,019,531	05/28/91	Awaya et al.	437	180	05/19/89
	3.	5,098,860	03/24/92	Chakravorty et al.	437	195	05/07/90
	4.	5,275,973	01/04/94	Gelatos	437	195	03/01/93
	5.	5,592,024	01/07/97	Aoyama et al.	257	751	10/28/94
	6.	5,674,787	10/07/97	Zhao et al.	437	230	01/16/96
	7.	5,913,144	06/15/99	Nguyen et al.	438	643	09/20/96
	8.	5,918,150	06/29/99	Nguyen et al.	438	687	10/11/96
	9.	5,939,788	08/17/99	McTeer	257	751	03/11/98
	10.	6,025,269	02/15/00	Sandhu	438	688	10/15/96
	11.	6,037,257	03/14/00	Chiang et al.	438	687	05/08/97
	12.	6,120,842	09/19/00	Lu et al.	427	250	10/21/97
	13.	6,130,155	10/10/00	Chen et al.	438	635	07/02/99
	14.	6,130,160	10/10/00	Vaartstra	438	681	04/20/98
	15.	6,171,898 B1	01/09/01	Crenshaw et al.	438	240	12/15/98
	16.	6,204,175 B1	03/20/01	Lai et al.	438	681	01/05/99
SR	17.	6,204,179 B1	03/20/01	McTeer	438	687	07/09/99

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
SR	18.	JP 7326612	12.12.95	Japan				
	19.	EP 0 839 927 A2	06.05.98	EPO				
	20.	JP 11003890 A	06.01.99	Japan				
SR	21.	WO 00/75964 A2	14.12.00	PCT				

EXAMINER	DATE CONSIDERED 2/01/03

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	FILING DATE December 5, 2001	GROUP Unknown

EXAMINER INITIAL		OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
SR	22.	Abstract of presentation to Korean Materials Academic Society, "Improvement of CVD-TiN diffusion barrier performance in Cu metallization by a thin Al interlayer between Cu and TiN," April 1999, Korea.
	23.	Cho, Sung-Lae et al., "Diffusion Barrier Properties of Metallorganic Chemical Vapor Deposited Tantalum Nitride Films Against Cu Metallization," Journal of the Electrochemical Society, Vol. 146, No. 10, pp. 3724-3730 (1999).
	24.	Kim, Byoung-Youp et al., "Microstructure and deposition rate of aluminum thin films from chemical vapor deposition with dimethylethylamine alane," Appl. Phys. Lett., Vol. 68, No. 25, pp. 3567-3569 (1996).
	25.	Kim, Kyoung-Ho et al., abstract of presentation at Advanced Metallization Conference, October 1999, Orlando, FL, "Improvement of diffusion barrier performance by a thin A1 interlayer deposited between barrier and copper."
	26.	Kim, Soo-Hyun et al., "A Comparative Study of Film Properties of Chemical Vapor Deposited TiN Films as Diffusion Barriers for Cu Metallization," Journal of the Electrochemical Society, Vol. 146, No. 4, pp. 1455-1460 (1999).
	27.	Kim, Yu Chang, "Via Poisoning-Free Dual Damascene Etching for Organic Low-k Material Integration," Materials Research Society Symposium Spring 2001, Symposium L., L5.5.
	28.	Lee, J. et al., "Influence of Vacuum-Annealing on the Diffusion Barrier Properies of MOCVD TiN for Cu Metallization," Journal of the Korean Physical Society, Vol. 35, pp. S65-S70 (1999).
	29.	Li, Xiaodong et al., "Structural characterization of aluminum films deposited on sputtered-titanium nitride/silicon substrate by metalorganic chemical vapor deposition from dimethylethylamine alane," Appl. Phys. Lett, Vol. 67, No. 23, pp. 3426-3428 (1995).
	30.	Mitsuo, A. et al., "Improvement of high-temperature oxidation resistance of titanium nitride and titanium carbide films by aluminum ion implantation," Surface and Coatings Technology, Vols. 103-104, pp. 98-103 (1998).
	31.	Nam, Ki Tae et al., "Improved diffusion barrier by stuffing the grain boundaries of TiN with a thin Al interlayer for Cu metallization," Applied Physics Letters, Vol. 79, No. 16, pp. 2549-2551 (2001).
	32.	Nam, Ki Tae et al., "Laterally Segregated Two Phase Mixture Diffusion Barrier for Cu Metallization," Presentation at Advanced Metallization Conference, October 2, 2001, Tokyo, Japan, Power Point presentation.
	33.	Nam, Ki Tae et al., "Laterally Segregated Two Phase Mixture Diffusion Barrier for Cu Metallization," Presentation at Advanced Metallization Conference, October 2, 2001, Tokyo, Japan, Abstract.
	34.	Kim, Kyoung-Ho et al., "A novel scheme of CVD-diffusion barrier for Cu metallization," D6.6, p. 95 and and Im, Se-Joon et al., A study on CVD TaN as a diffusion barrier for Cu interconnects," D6.7, pp.95-96, Presentation at Materials Research Society Symposium – abstracts attached , April 2000, San Francisco.
	35.	World-wide web cubic.mat.ncku.edu.tw/ceramics/homepage/intro-e.htm, "Investigation of Diffusion Barrier of TiAlN Films Between Cu and Si (86)," pp.7-8 and "Diffusion Barrier and Interface Properties of TiAlN Between Cu and Si (89)," p. 10 (March 29, 2001).
SR	36.	Yoon, L. G. et al., "Improvement of Diffusion Barrier Performance of 10nm TiN layer using a very thin A1interlayer," Abstract of presentation at Advanced Metallization Conference, October 2000, San Diego, USA.

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EXAMINER	DATE CONSIDERED 21/07/03

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